

REMARKS

Claims 13-32 are presently in the application. Claims 1-12 have been canceled.

Claim 27 has been amended to depend from claim 14 and is no longer a duplicate of claim 17. Claim 21 has been amended to depend from claim 15 in order to provide a proper antecedent basis for "the first bore" recited in claim 22, which depends from claim 21. In view of these amendments, withdrawal of the objection of claim 27 and the rejection of claims 21 and 22 under 35 U.S.C. 112, second paragraph, is requested.

Reconsideration of the rejection of claims 13, 14, 18-21, 24, 28, 31 and 32 under 35 U.S.C. 102(b) as anticipated by Augustin (UK 2316447) is respectfully requested.

Claim 13 is directed to an injector for a common rail injection system for internal combustion engines, having a valve control chamber (11) defined at one end by the end face (33) of a nozzle needle (21), in which the fuel inlet to the control chamber takes place via an inlet throttle (9) and the fuel outlet takes place via an outflow throttle (13), and there is a closing piston (34) in the valve control chamber (11), the improvement wherein the closing piston (34) has a larger diameter than the nozzle needle (21).

Augustin fails to teach, inter alia, an injector for a common rail injection system for internal combustion engines, having a valve control chamber defined at one end by the end face of a nozzle needle as required in claim 13.

Augustin does teach an injection valve having a nozzle housing 1 with an inlet passage 2 connected to a high pressure common rail; a branch passage 2a is connected to a control space 4 via a constriction or throttle 5. The control space is also

connected to a pressure relief line 8 via an outlet restriction or throttle 6. Applicant's injector also includes a control space or chamber (11), in which the fuel inlet to the control chamber takes place via an inlet throttle (9) and the fuel outlet takes place via an outflow throttle (13). However, claim 13 requires that the control chamber be defined at one end by the end face (33) of a nozzle needle (21). The control space disclosed in Augustin is not defined at one end by an end face of a nozzle needle. Instead, Augustin's control space is defined, at the end having the outlet restriction, by the nozzle housing and at the other end by an end face of the control piston 3. The examiner's attention is directed to the fact that the space 14 of Augustin is not a part of the control space 4 and is simply described as an annular space connected to a leakage line 15. See, Augustin, page 4.

To support a rejection of a claim under 35 U.S.C. § 102(b), it must be shown that each element of the claim is found, either expressly described or under principles of inherency, in a single prior art reference. See Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984).

Augustin fails to teach or disclose "a valve control chamber (11) defined at one end by the end face (33) of a nozzle needle (21)." This, Augustin does not anticipate claim 13 or the claims dependent on claim 13.

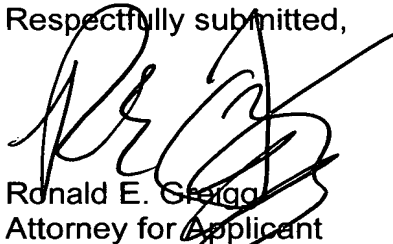
Additionally, the closing spring 16 in Augustin is not disposed in the control space 4 as required by claim 19.

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The examiner's indication of allowable subject matter in claims 15-17, 25-27, 29 and 30 is greatly appreciated. Since claims 21-23 now depend on claim 15, these claims should also contain allowable subject matter.

In accordance with the foregoing, applicant respectfully requests that the examiner reconsider and withdraw the outstanding rejections. If, however, the examiner feels that any further issues remain or require clarification, the examiner is cordially invited to contact the undersigned in order that any such issues may be promptly resolved.

Respectfully submitted,



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